IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	HARRISON et al.	Examiner:	Shah, N.
Serial No.:	09/550,420	Group Art Unit:	2127
Filed:	April 17, 2000	Docket No.	**BLD920000004US1** (IBMN.008US01)
Title:			

METHOD AND APPARATUS FOR PRIORITIZING PRINT JOBS FROM
MULTIPLE PRINTER INPUT CHANNELS

APPEAL BRIEF

Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Appeal Brief submitted pursuant to 37 C.F.R. § 41.37 for the above-referenced patent application. Please charge Deposit Account No. 50-0563 (BLD920000004US1) in the amount of $340 for this brief in support of appeal as indicated in 37 C.F.R. § 41.20(b)(2). If necessary, authority is given to charge/credit deposit account 50-0563 (BLD920000004US1) any additional fees/overages in support of this filing.

I. Real Party in Interest

The real party in interest is International Business Machines Corporation, having a place of business at New Orchard Road, Armonk, New York 10504. This application is assigned to International Business Machines Corporation.

II. Related Appeals and Interferences

Appellant is unaware of any related appeals, interferences or judicial proceedings.

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III. Status of Claims

Claims 1-37 are rejected. Claims 1-37 are presented for appeal and may be found in the attached Appendix of Appealed Claims in their present form.

IV. Status of Amendments

In the response of April 12, 2004, the claims were not amended. The advisory action dated July 01, 2004 indicates the amendments to the claims have been entered.

V. Summary of Invention

Appellants' invention discloses a method and apparatus for prioritizing print jobs from multiple printer input channels. A computer-readable medium (616, 618) and method for dictating the order that print jobs received over multiple data channels are printed includes assigning priority values to data channels that receive print jobs (200), associating the priority value assigned to the data channel with the print jobs received at its respective data channel (202) and printing the print jobs in an order corresponding to their associated priority values (204). A printing device coupled to receive print jobs transmitted by one or more computing devices, the printing device includes a plurality of data channels (102, 104, 106) to receive the print jobs (112, 114, 116), wherein the data channels are assigned respective priority values (132, 134, 136), and wherein the print jobs received at the data channels assumes the priority value of its respective one of the data channels, a compare module (516) coupled to receive the priority values corresponding the received print jobs and to identify the print job exhibiting the highest priority and a print engine (122/520) to print the print jobs in an order from the highest priority to the lowest priority as identified by the compare module.

A printing system for printing data transmitted via print jobs includes one or more computing devices (600) arranged in a network (643), wherein the one or more computing devices transmit the print jobs over the network, a printing device (100) coupled to the network to receive the print jobs transmitted by the one or more computing device.

The printing device includes a plurality of data channels (102, 104, 106) to receive the print jobs (112, 114, 116), wherein the data channels are assigned respective priority

values (132, 134, 136), and wherein the print jobs received at the data channels assumes the priority value of its respective one of the data channels, a compare module (516) coupled to receive the priority values corresponding the received print jobs and to identify the print job exhibiting the highest priority and a print engine (122/520) to print the print jobs in an order from the highest priority to the lowest priority as identified by the compare module.

A computer-readable program storage medium (616, 618) and method of dictating the order in which print jobs are printed on a printing device includes providing a plurality of data channels to receive print jobs (400), wherein the data channels receive predefined groups of print job types, assigning a priority value to the data channels that receive print jobs (402), associating the priority value of the data channels with the print jobs received at the respective one of the data channels (406), determining relative priorities of the print jobs based on their associated priority values (418) and printing the print jobs in a sequence corresponding to the relative priorities associated with the print jobs (422/424).

A printing device coupled to receive print jobs transmitted by one or more computing devices includes a plurality of data channels (102, 104, 106) to receive the print jobs (112, 114, 116), means (622) for assigning a priority value (622) to the data channels, means for attributing the priority value of the data channels to the print jobs (102, 104, 106) received via its respective one of the data channels, means (516) for comparing the priority values of the print jobs that are pending, and for identifying the print job exhibiting the highest priority and means (122/520) for printing the print jobs in an order from the highest priority to the lowest priority.

VI. Grounds of Rejection

Appellant has attempted to comply with new rule 37 C.F.R. § 41.37(c) by providing the Office Action's grounds of rejection verbatim, followed by an argument section corresponding thereto.

A. **Claims 1-37 are rejected under 35 U.S.C. § 102(e) over Debes et al. (U.S. Patent No. 5,970,223).**

VII. Argument

A. **The Examiner's continued rejection of claims 1-37 under 35 U.S.C. § 102(e) improperly ignores the evidence of record.**

1. **Debes Fails To Teach, Disclose Or Suggest Assigning Priority Values To Data Channels That Receive Print Jobs.**

The independent claims requires the assignment of priority values to data channels that receive print jobs.

Debes fails to teach, disclose or suggest assigning priority values to data channels that receive print jobs. The final Office Action stated that Debes discloses, at col. 8 lines 22-38 and col. 11 line 20 to col. 12 line 45, assigning priority values to data channels that receive print jobs, i.e., priority assigned according to job or user type. Moreover, in the Advisory Action, the Examiner stated that Debes teaches that all incoming faxes are to be printed immediately (col. 12 lines 16-18) and that faxes are on a different data channel than copy printing or walk up jobs. Still further, the Advisory Action states that "clearly different resources have different data channels." Thus, according to the Examiner in the Advisory Action, there are clearly different data channels within Debes system and they are assigned different priority levels.

However, a closer inspection of Debes reveals that Debes does not even suggest that data channels are assigned priority values. Rather, according to Debes, priority values are assigned by job type, i.e., fax jobs, net print, copy print, etc. For example, see column 12, lines 32-34, wherein Debes defines Job Type Priority as a priority assigned according to job or user type. In column 14, lines 49-50, job type priority is based on job type. At column 16,

lines 30-35, in order to determine the next job to obtain a system's resource, a job's priority is based on the service that created the job. Further down in column 16, at lines 59-61, Debes states that a job is assigned a priority based on service type when the job is created within the printing system. Even further examples could be cited including column 17, lines 28-36, lines 42-45, and lines 60-64.

In addition to the above evidence, nowhere does Debes even suggest that a particular data channel is assigned a priority. Moreover, despite the fact that jobs may be provided using a plurality of data channels, nowhere does Debes suggest that the particular data channel a job is received on is determinative of a priority value. Instead, Debes clearly and consistently describes priority values being assigned according to job type. Thus, according to Debes, a fax job would always be given the highest priority based on the job simply being a fax job. In contrast, according to Appellant's invention, where the priority is based on the channel and not the type of job, some faxes could be sent to a high priority channel and some to a low priority channel and likewise for print jobs.

Therefore, the independent claims are patentable over Debes because Debes fails to teach, disclose or suggest assigning priority values to data channels that receive print jobs.

2.   **Debes Fails To Teach, Disclose Or Suggest Associating The Priority Value Assigned To The Data Channel With The Print Jobs Received At Its Respective Data Channel.**

The independent claims require the association of the priority value assigned to the data channel with the print jobs received at its respective data channel.

Debes fails to teach, disclose or suggest associating the priority value assigned to the data channel with the print jobs received at its respective data channel. The final Office Action stated the Debes disclosed, again at col. 8 lines 22-38 and col. 11 line 20 to col. 12 line 45, associating the priority value assigned to the data channel with the print jobs received at its respective data channel. Moreover, the Advisory Action stated that Debes teaches that the job is printed based on the priority level and when it was received, in this case Debes used FIFO (col. 11 lines 22-25, col. 12 lines 17-30). The Advisory Action further states that Debes teaches that a resource can have different priority levels (col. 16 lines 35-40).

However, as asserted above, Debes does not assign priority values based on the data channel a job is received on. Rather, priority values are based on job type and not on priority values assigned to particular data channels. Thus, Debes cannot, and in fact does not, suggest the association of the priority value assigned to the data channel with the print jobs received at its respective data channel.

Therefore, the independent claims are patentable over Debes because Debes fails to teach, disclose or suggest assigning priority values to data channels that receive print jobs.

3. Debes Fails To Teach, Disclose Or Suggest Printing The Print Jobs In An Order Corresponding To Their Associated Priority Values.

The independent claims require print jobs to be printed in an order corresponding to their associated priority values (which are based on which data channel received the print job – not the job type).

Debes fails to teach, disclose or suggest printing the print jobs in an order corresponding to their associated priority values. The final Office Action stated that Debes discloses, yet again at col. 8 lines 22-38 and col. 11 line 20 to col. 12 line 45, that the print jobs are printed in an order corresponding to their associated priority values. Moreover, the final Office Action stated that according to one embodiment of Debes, jobs are placed in a queue as they are submitted to the printing system and that if one type of job has a higher priority than another type of job then it will be placed before that job in the queue.

However, this hardly suggests that print jobs to be printed in an order corresponding to their associated priority values. Of course the priority value cited in these elements refers antecedently to priority values being based on the data channel receiving the print job – not the job type. For the reasons stated above, Debes does not assign priority values based on the data channel a job is received on. Rather, priority values are based on job type and not a priority values assigned to particular data channels. Thus, Debes cannot, and in fact does not, suggest that print jobs to be printed in an order corresponding to their associated priority values, wherein the priority value are based on which data channel received the print job.

Therefore, the independent claims are patentable over Debes because Debes fails teach, disclose or suggest printing print jobs in an order corresponding to their associated priority values.
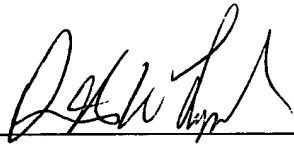
VIII. <u>Conclusion</u>

In view of the above, Appellant submits that the rejections are improper, the claimed invention is patentable, and that the rejections of claims 1-37 should be reversed. Appellant respectfully requests reversal of the rejections as applied to the appealed claims and allowance of the entire application.

Authority to charge the assignee's deposit account was provided on the first page of this brief.

Respectfully submitted,

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APPENDIX OF APPEALED CLAIMS FOR APPLICATION NO. 09/550,420

1   1.   (original)   A method for dictating the order that print jobs received

2   over multiple data channels are printed, comprising:

3   assigning priority values to data channels that receive print jobs;

4   associating the priority value assigned to the data channel with the print

5   jobs received at its respective data channel; and

6   printing the print jobs in an order corresponding to their associated priority

7   values.

1   2.   (original)   The method of Claim 1, wherein assigning a priority value

2   comprises assigning a different priority value to each data channel that receives the print

3   jobs.

1   3.   (original)   The method of Claim 1, wherein assigning a priority value

2   comprises assigning two or more of the data channels equal priority values, and wherein

3   printing the print jobs comprises printing the print jobs received via the two or more data

4   channels having equal priority values in an order in which they were received via the data

5   channels.

1   4.   (original)   The method of Claim 1, wherein printing the print jobs in

2   an order corresponding to their associated priority values comprises printing the print

3   jobs in an order from highest priority to lowest priority.

1   5.   (original)   The method of Claim 1, wherein at least one of the data

2   channels is dedicated as an internal print data channel to receive internally-generated

3   print jobs.

1   6.   (original)   The method of Claim 5, wherein assigning the priority

2   value to the data channel that receives print jobs comprises assigning the internal print

3   data channel the highest possible priority.

1   7.   (original)   The method of Claim 1, wherein assigning the priority

2   value to the data channel comprises assigning a priority value to each of the data channels

3   that receives a different predefined group of print job types.

1   8.   (original)   The method of Claim 1, further comprising:

2   determining whether a plurality of the print jobs currently pending have

3   equivalent associated priority values; and

4   printing the print jobs that have the equivalent associated priority values in

5   an order in which they were received via their respective data channels.

1   9.   (original)   The method of Claim 8, further comprising determining the

2   order in which the print jobs having equivalent associated priority values were received

3·   by monitoring time of arrival of the print jobs.

1   10.   (original)   The method of Claim 8, further comprising determining the

2   order in which the print jobs having equivalent associated priority values were received

3   by queuing the print jobs having equivalent associated priority values in a first-in-first-

4   out arrangement.

1   11.   (original)   The method of Claim 1, further comprising queuing the

2   print jobs in an increasing order according to their respective priority values, and

3   forwarding the print jobs to a print engine for printing in the order in which the print jobs

4   are queued.

1   12.   (original)   The method of Claim 1, further comprising queuing the

2   print jobs in an order of receipt of the print jobs, and sending the print jobs to a print

3   engine for printing in a sequential order corresponding to the respective priority values

4   associated with the print jobs.

1   13.   (original)   The method of Claim 1, wherein assigning the priority

2   value comprises assigning the priority value upon initialization of a printing device

3   designated for printing the print jobs.

1   14.   (original)   The method of Claim 1, wherein assigning the priority

2   value comprises assigning the priority value via a user interface by a user granted

3   authority to reassign the priority values to selected ones of the data channels.

1   15.   (original)   A computer-readable medium having computer-executable

2   instructions for performing steps comprising:

3   assigning priority values to data channels that receive print jobs;

4   associating the priority value assigned to the data channel with the print

5   jobs received at its respective data channel; and

6   printing the print jobs in an order corresponding to their associated priority

7   values.

1   16.   (original)   A printing device coupled to receive print jobs transmitted

2   by one or more computing devices, the printing device comprising:

3   a plurality of data channels to receive the print jobs, wherein the data

4   channels are assigned respective priority values, and wherein the print jobs received at

5   the data channels assumes the priority value of its respective one of the data channels;

6   a compare module coupled to receive the priority values corresponding the

7   received print jobs and to identify the print job exhibiting the highest priority; and

8   a print engine to print the print jobs in an order from the highest priority to

9   the lowest priority as identified by the compare module.

1   17.   (original)   The printing device as in Claim 16, further comprising one

2   or more print queues coupled to receive and output the print jobs in an order received,

3   wherein the print jobs are received in the order of the highest priority to the lowest

4   priority.

1   18.   (original)   The printing device as in Claim 16, further comprising one

2   or more print queues coupled to receive the print jobs in an order received, and to output

3   the print jobs in an order corresponding to their respective priority values.

1   19.   (original)   The printing device as in Claim 1 6, further comprising a

2   job monitor module coupled to the plurality of data channels to receive and store the

3   priority values associated with the print jobs that are currently pending.

1   20.   (original)   The printing device as in Claim 19, wherein the compare

2   module is coupled to the job monitor module to receive the stored priority values, and to

3   identify the print job exhibiting the highest priority in response thereto.

1   21.   (original)   The printing device as in Claim 16, wherein the plurality of

2   data channels comprise an internal print data channel in which internally-generated print

3   jobs are received.

1   22.   (original)   The printing device as in Claim 21, wherein the internal

2   print data channel is preassigned to the highest priority in a range of the priority values.

1   23.   (original)   The printing device as in Claim 22, further comprising a

2   user interface coupled to the internal print data channel to allow a user to select print

3   features to initiate the internally-generated print jobs.

1   24.   (original)   The printing device as in Claim 23, further comprising an

2   internal print module to generate the internally-generated print jobs corresponding to the

3   selected print features.

1   25.   (original)   The printing device as in Claim 16, wherein the priority of

2   the print job is inversely proportional to the priority value associated with the print job.

1   26.   (original)   A printing system for printing data transmitted via print

2   jobs, the system comprising:

3   one or more computing devices arranged in a network, wherein the one or

4   more computing devices transmit the print jobs over the network;

5   a printing device coupled to the network to receive the print jobs

6   transmitted by the one or more computing device, the printing device comprising:

7   (a)   a plurality of data channels to receive the print jobs, wherein the

8   data channels are assigned a priority value, and wherein the print jobs received at the data

9   channels assume the priority value of its respective one of the data channels;

10   (b)   a compare module to receive the priority values corresponding to

11 the received print jobs and to identify the print job exhibiting the highest priority; and

12   (c)   a print engine to print the print jobs in an order from the highest

13 priority to the lowest priority as identified by the compare module.

1   27.   (original)   The printing system as in Claim 26, wherein each of the

2   data channels is assigned a different priority value.

1   28.   (original)   The printing system as in Claim 26, wherein each of the

2   data channels corresponds to a predefined group of print job types.

1   29.   (original)   A method of dictating the order in which print jobs are

2   printed on a printing device, comprising:

3   providing a plurality of data channels to receive print jobs, wherein the

4   data channels receive predefined groups of print job types;

5   assigning a priority value to the data channels that receive print jobs;

6   associating the priority value of the data channels with the print jobs

7   received at the respective one of the data channels;

8   determining relative priorities of the print jobs based on their associated

9   priority values;

10   printing the print jobs in a sequence corresponding to the relative priorities

11   associated with the print jobs.

1   30.   (original)   The method of Claim 29, wherein printing the print jobs in

2   a sequence comprises printing the print jobs in a sequence of highest priority to lowest

3   priority.

1   31.   (original)   The method of Claim 29, further comprising:

2   designating one of the data channels as an internal print data channel 3 to

3   receive internally-generated print jobs; and

4   pre-assigning a priority value to the internal print data channel that

5   represents the highest possible priority value of a priority value range of priority values.

1   32.   (original)   The method of Claim 29, wherein assigning the priority

2   values to the data channels comprises assigning the priority values upon initialization of

3   the printing device in accordance with a predetermined priority assignment.

1   33.   (original)   The method of Claim 29, wherein assigning the priority

2   values to the data channels comprises assigning the priority values via a user interface to

3   apply user-selected priorities to particular ones of the data channels.

1   34.   (original)   The method of Claim 29, wherein determining relative

2   priorities of the print jobs comprises comparing the priority values of the print jobs that

3   are currently pending to each other.

1   35.   (original)   A computer-readable program storage medium tangibly

2   embodying a program of instructions executable by a print server system to process print

3   jobs by performing steps comprising:

4   assigning priority values to a plurality of data channels that receive print

5   jobs;

6   associating the priority value assigned to each data channel with print jobs

7   received at its respective data channel;

8   determining relative priorities of a plurality of print jobs based on their

9   associated priority values; and

10   printing print jobs in a sequence corresponding to the relative priorities

11   associated with the print jobs.

1   36.   (original)   A printing device coupled to receive print jobs transmitted

2   by one or more computing devices, the printing device comprising:

3   a plurality of data channels to receive the print jobs;

4   means for assigning a priority value to the data channels;

5   means for attributing the priority value of the data channels to the print

6   jobs received via its respective one of the data channels;

7   means for comparing the priority values of the print jobs that are pending,

8   and for identifying the print job exhibiting the highest priority; and

9   means for printing the print jobs in an order from the highest priority to

10   the lowest priority.

1   37.   (original)   The printing device as in Claim 36, further comprising means

2   for queuing the print jobs in the order from the highest priority to the lowest priority.

APPENDIX OF EVIDENCE FOR APPLICATION NO. 09/550,420

Appellant is unaware of any evidence submitted in this application pursuant to 37 C.F.R. §§ 1.130, 1.131, and 1.132.

APPENDIX OF RELATED PROCEEDINGS FOR APPLICATION NO. 09/550,420

As stated in Section II above, Appellant is unaware of any related appeals, interferences or judicial proceedings.